



## ABSTRACT AND BIOGRAPHY

### **The Evolution of Web-Based Collaboration at NASA and The Wiki Way Forward**

The PBMA-KMS was developed and implemented by the NASA's Office of Safety and Mission Assurance (OSMA) with web-based infrastructure development beginning in 1998 and formal deployment on NASA Headquarters servers in April of 2000 as NASA's first fully-operational Agency-wide knowledge management system. While the PBMA-KMS continues to serve thousands of NASA program/project management, engineering, and SMA work teams (in over 700 communities of practice) significant innovations in web-based collaboration are emerging within the ESMD organization. The ESMD Integrated Risk and Knowledge Management System (IRKMS) under the leadership of David Lengyel has paired the critical systems engineering discipline of risk management with knowledge management (KM) practices and theory. The IRKMS program has developed a host of innovative practices and products that support an ever expanding Constellation, Lunar, and Technology Development customer base. One of the five key IRKMS initiatives is "Virtual Teams" which translates to promoting the evolution and implementation of Wiki-based collaborative communities across ESMD. This paper showcases the IRKMS Wiki Training & Awareness initiative and reviews key concepts contained within the "ESMD Compact Startup Guide for Virtual Collaborative Teams." In addition, the session provides a detailed profile of how these principles (as well as PBMA lessons learned) were combined with wiki-technology to implement the ARES-I PDR Wiki. The ARES-I provides an outstanding implementation example for others to follow.

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J. Steven Newman is Vice President, Technology Application of ARES Corporation in September 2006 after a distinguished 32 year career in government service with the National Aeronautics and Space Administration (NASA) and the Federal Aviation Administration (FAA). At ARES, Dr. Newman currently manages programs and projects related to quality assurance, safety, mission assurance, and risk management for space systems. Specific ongoing activities include systems safety hazard analysis for the next generation Orion launch vehicle, risk management strategies for the NASA Headquarters Constellation Program, technical support to the Office of Safety & Mission Assurance. Dr. Newman also serves as a member of the Missile Defense Agency, senior Readiness Review Team providing independent evaluation of safety and mission assurance issues. Dr. Newman is an adjunct professor and Senior Research Fellow, in Knowledge Management at George Washington University and is serving on the Board of the International Space Safety Foundation. At NASA, Dr. Newman led the design, development and implementation of the NASA Process Based Mission Assurance Knowledge Management System (PBMA-KMS) recipient of the 2003 OMB sponsored e-Gov Pioneer Award, and recognized by multiple Agency honors and awards. Dr.



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Newman also served NASA as Director of the Review and Assessment Division in the Office of Safety and Mission Assurance, Chief Environmental Engineer in the Office of Space Flight, Special Assistant to the Space Shuttle Program Director, Titan IV Program Manager, and NASA Manager for Industrial Safety.